

Team Update 11

General

N/A

Competition Manual

9.8 CLASSIFIER

9.8.3 GATE

The GATE will take variable amounts of time to close. The GATE closing before all CLASSIFIED ARTIFACTS exit the RAMP is not considered an ARENA FAULT, and teams should be prepared to hold the GATE open to fully clear the RAMP. The GATE not closing immediately when released by the ROBOT (but closing eventually) is not considered an ARENA FAULT. During a MATCH, FIELD STAFF may follow steps in the Field Mitigation Guide to mitigate some FIELD issues during a MATCH. Refer to the Field Mitigation Guide for more guidance on how FIELD STAFF will respond to inconsistent FIELD behavior.

When closed, the height of the contact area of the GATE above the surface of the TILE ranges from approximately 3.75 in. (9.55 cm) to 5.5 in. (14.00 cm) and when open the contact point is approximately 3 in. (7.60 cm) above the TILES (Figure 9 16). The total horizontal displacement required to move the GATE from closed to open is approximately 2 in. (5.10 cm).

TEAMS are encouraged to design their ROBOTS with a large vertical surface which ensures consistent contact with the GATE arm. It is particularly important that this panel extends up to the high end of the interface range approximately 5.5 in. (14.00 cm) above the TILE surface. This ensures the ROBOT cannot end up "under" the GATE arm and will help prevent ROBOTS from inadvertently damaging the FIELD.

10.8 Other Logistics

SCORING ELEMENTS that leave the FIELD will be returned to the closest ARTIFACT tray or available DRIVER or HUMAN PLAYER at the earliest safe opportunity by FIELD STAFF. Reintroduction of SCORING ELEMENTS must follow rule G433 G432.

An ARENA FAULT (an error in ARENA operation described in section [13.3 MATCH Replays](#)) is not called for MATCHES that accidentally begin with damaged SCORING ELEMENTS, the incorrect number of SCORING ELEMENTS, or incorrectly placed SCORING ELEMENTS. Damaged SCORING ELEMENTS are not replaced until the next MATCH reset. DRIVE TEAMS should alert the FIELD STAFF to any missing, incorrectly placed, or damaged SCORING ELEMENTS prior to the start of the MATCH. During a MATCH, FIELD STAFF may follow steps in the Field Mitigation Guide to mitigate some FIELD issues during a MATCH.

11.4 In-MATCH

G402 No AUTO opponent interference. During AUTO, FIELD columns A, B, C constitute the blue side of the FIELD, and columns D, E, F (Figure 9 5) constitute the red side of the FIELD. During AUTO, a ROBOT may not:

- A. contact an opposing ALLIANCE'S ROBOT which is completely within the opposing ALLIANCE'S side of the FIELD either directly or transitively through an ARTIFACT, or
- B. disrupt an ARTIFACT from its pre-staged location on the opposing ALLIANCE'S side of the FIELD either directly or transitively through contact with an ARTIFACT, or by LAUNCHING or rolling an ARTIFACT directly into it.

G412 *Don't damage the FIELD. A ROBOT may not damage FIELD elements.

SCORING ELEMENT damage is specifically covered in [G407](#), [G407](#) and [G412](#) do not stack. [G412](#) does not apply to damage caused by normal gameplay actions.

FIELD damage includes, but is not limited to:

- contaminating the FIELD with a liquid or fine solid as in R205,
- damaging TILE in R201,
- causing the GATE to no longer function bend or break off

FIELD damage does not include:

- normal GATE interaction resulting in a GATE that "sticks" open
- normal interaction with the GOAL that causes it to lift off the TILES

12.1 General ROBOT Design

R105 There are expansion limits. After the MATCH has started, ROBOTS may expand beyond the STARTING CONFIGURATION but are still subject to sizing constraints relative to the ROBOT, based on the initial STARTING CONFIGURATION. ROBOTS must be physically constrained to fit within these limits without the use of software. The sizing constraints are:

- A. After the start of the MATCH, ROBOTS may expand horizontally but must remain within a fixed 18 in. (45.70 cm) by 18 in. (45.70 cm) when fully expanded per [G414](#). ROBOTS must be physically constrained to fit within these horizontal limits without the use of software.
- B. After the start of the MATCH, ROBOTS may expand vertically up to 18 in. (45.70 cm). ROBOTS may be physically constrained or software limited to fit within this vertical limit.
- C. Within the limitations per [G415](#), ROBOTS may expand vertically up to 38 in. (96.50 cm). ROBOTS may be physically constrained or software limited to fit within this vertical limit.

Any extension beyond the maximum expansion limit during ROBOT operation is considered a violation of this rule. This includes flexible extensions (e.g., surgical tubing flappers, star intakes) that cause the ROBOT to exceed the expansion limit.

Teams should be prepared to show compliance with this rule and demonstrate their ROBOT expansions during the inspection process. During inspection, each team will be asked to show the ROBOT'S STARTING CONFIGURATIONS and additionally its configurations at maximum mechanical (horizontal) extensions and mechanical/software (vertical) extensions. Software limits are not sufficient to demonstrate maximum extensions for horizontal expansion.

ROBOTS must show their maximum mechanical extensions during the inspection process. A ROBOT that can mechanically exceed the horizontal limit would be in violation even if the ROBOT has software limiting the position of the extension during the MATCH.

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12.9 OPERATOR CONSOLE

R904 *OPERATOR CONSOLE physical requirements. The OPERATOR CONSOLE, including all power sources, must not exceed a volume of 3ft wide, 1ft **2in** deep and 2 ft tall (91.4 cm by ~~30.5~~ **35.5** cm by 61.0 cm) excluding any items that are held or worn by the DRIVERS during the MATCH

13.3 MATCH Replays

T301 *Replays are allowed, but rare. MATCH replays are only allowed in extreme circumstances due to an ARENA FAULT or for MATCHES which are stopped because FIELD STAFF anticipated FIELD damage or personal injury.

An ARENA FAULT is an error in ARENA operation that includes, but is not limited to:

- A. broken FIELD elements due to normal, expected game play, or ROBOT abuse of FIELD elements that affects the outcome of the MATCH for their opponents,

A broken FIELD element caused by ROBOT abuse that affects the outcome of the MATCH for their ALLIANCE is not an ARENA FAULT. The following situations in DECODE are not typically considered ARENA FAULTS:

- A. An ARTIFACT jam in the GOAL behind the archway,
- B. An ARTIFACT jam on the CLASSIFIER,
- C. A GOAL slightly lifts off the TILES , or
- D. A GATE temporarily sticks open.

The following situations for DECODE are typically considered ARENA FAULTS:

- E. An opponent bends or breaks off a GATE such that it no longer operates normally, or
 - F. An opponent causes a GATE to stick open for a substantial or impactful portion a MATCH.
- B. FIELD elements moving beyond normal tolerances (not as the result of ROBOT interaction)
 - C. Wide-spread wireless interference affecting multiple ROBOTS typically at the same time and on both ALLIANCES,
 - D. failure of the MATCH timer display, or
 - E. errors by FIELD STAFF (except those listed in section 10.8 Other Logistics).